

Machine Tools Lead Durable Goods Recovery

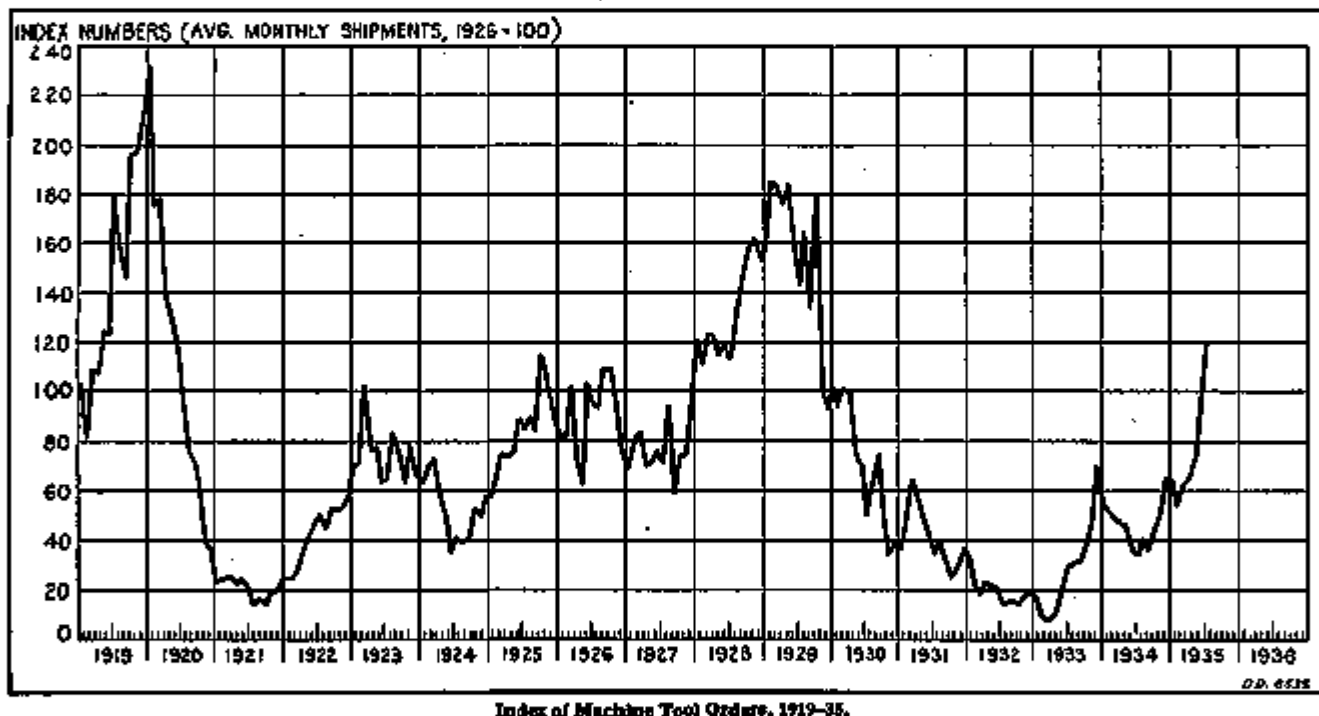
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INTEREST in the role played by the durable-goods industries in cyclical changes in business has been heightened during the current depression because of the large volume of unemployment that has been immediately occasioned by the extremely low level to which production in these industries declined. At the present time the consumers' goods industries show only a moderate recession below the 1929 level and some products such as woollens, rayon, leather boots and shoes, cigarettes, and gasoline have been manufactured and sold in larger volume than in that relatively prosperous year.

With the durable goods industries—those supplying materials to other industries or for the production of

cision. The fact that the machine tool builders saw fit to expend large sums on this exhibition (the first held since 1929) is an indication of the manufacturers' appraisal of the future outlook for this key industry.

The good judgment of the machine tool manufacturers in making this expenditure was apparently vindicated by the exceedingly heavy attendance at the show, and particularly by the fact that those who visited the display were in large measure representatives of industries that are prospective purchasers of machine tools. While data are not available to indicate the volume of business transacted at the show, it was apparently large enough to satisfy its sponsors.



goods of relatively long life, such as housing—the situation has been radically different. By 1932 the output of the durable goods industries included in the monthly production index of the Federal Reserve Board had dropped well below one-third of the 1929 average. While the output of these industries has more than doubled in comparison with 1932, production is still less than two-thirds of the 1929 level.

During the current year, improvement in the durable goods industries has been widespread and some spectacular gains have been recorded. Attention was centered on the extent of such recovery by the exhibition held by the National Machine Tool Builders' Association in Cleveland, September 11 to 21, inclusive, which was utilized by virtually all prominent firms to display their latest contributions to the science of machining metals and industrial materials with speed and pre-

Machine Tools a Key Industry

Although the machine tool industry accounts for only some 2 or 3 percent of our total machinery production, it is nevertheless one of the key industries in a highly mechanized country such as the United States. Our ability to maintain a high standard of living in this country and to compete successfully in the markets of the world depends to a very large extent upon our manufacturing technique. Machine tools are the basic tools of industry, for they constitute the equipment with which other productive machinery is made, and without high standards of machine tool equipment all of our manufacturing facilities must inevitably suffer. For example, the present-day motor car, sold at a price within the reach of most of our population, would be an impossibility without the special machine tools which have been devised by their builders, in

conjunction with the engineers of the automotive industry, and which combine high productive ability with extreme precision.

The need in the United States for new machine tools was demonstrated by an inventory of metal-working equipment conducted in the spring of 1935 by The American Machinist, which indicates that more than 65 percent of the metal-working machinery of the country was more than 10 years old. With the rapid improvement of design in machine tools, many items of such equipment become inefficient productive agencies within 4 or 5 years by reason of the development of better equipment. The steady increase of sales during recent months is strong evidence that manufacturers feel sufficient confidence in the future to begin making the long-delayed purchases of the equipment they require.

Rapid Rise in Orders in Recent Months

The accompanying chart indicates graphically the progress in the machine tool industry that has recently been accomplished. The terrific impact of the depression upon this industry, which is very sensitive to changes in industrial activities, can be observed by the drop from an average index of orders in 1929 of 155.8 to an average index of 19.6 in 1932. In February 1929, the peak month for that year, the index stood at 186.3, while the low point for a period of more than 16 years was reached in March 1933 when the index dropped to 7.4.

With the national exhibition in the offing, it might have been expected that orders for machine tools would have been held up for some time beforehand, pending examination of the latest offerings. Nevertheless, orders received by the industry in August were the largest for any month since 1929. The current upswing in the industry has extended for about a year, with only a temporary interruption in the first 2 months of the current year.

Contributing to the rise in activity during 1935 has been the increased volume of foreign orders. A fairly high proportion of the orders even during the depression came from foreign countries, and this business has expanded with the volume of domestic orders. Since March 1935 the increase in foreign business has been relatively greater than the increase in domestic sales. The index of the former has advanced from 13.8 in March to 47.6 in August, while the index of domestic business has advanced in the same period from 43.5 to 78.2.

Employment and Pay Rolls Expanded

The rapid rise in the volume of business has been accompanied by substantial increases in the number employed in the industry and by an even larger relative gain in pay rolls. Employment in April 1933 dropped to 30 percent and pay rolls to 17.6 percent of the average for the years 1923-25. A rapid rise occurred in the following year, with little change from then until February 1935 when production and employment rose sharply; since that time there has been a steady and substantial increase. In August 1935 the employment index was up to 91.9, on the 1923-25 basis, while the pay-roll index was 80.5.

Increased demands for skilled labor able to perform the exacting operations required in the manufacture of precision tools have emphasized the difficulties of reassembling working staffs dispersed as a result of the depression. During the past 6 years, the lack of employment in the machine tool field has caused a large percentage of the skilled men, who for years commanded high wages at their chosen trade, to find whatever occupation they could to assure some stability of employment, sometimes in totally unrelated trades. This has resulted in a loss of skill which is proving to be a serious problem for employers.

The present difficulty is augmented by the fact that the training of apprentices has been practically at a standstill since 1929. Some machine-tool manufacturers are now endeavoring to train workers up to the necessary efficiency by permitting apprentices to act as assistants to skilled workers and to be trained while in the actual work of production. Others are reorganizing their apprentice work on a more formal basis.

Other Durable Goods Industries are Expanding

The rising tide of machine-tool business may be viewed as a visible sign of returning confidence; it should be noted, however, that other products which are generally sold to industry, for which monthly sales data are available, have not recorded increases in business comparable with those of the machine-tool industry. The accompanying table shows the trend of business in some of the products which are generally sold to industry. It may be noted that while there have been increases in all series since the depression lows, these industries are generally operating far below the 1929 level.

Comparative Trends in Selected Durable Goods Industries

Year and month	Machine tools, orders ¹	Electric overhead cranes, ship-ments	Steam power and centrifugal pumps, new orders	Industrial electric trucks and tractors, ship-ments	Malleable castings, ship-ments	Steel bars, ship-ments	Steel castings, new orders	Fabricated steel plate, new orders	Track work, production	Industrial sales of paints (879 establishments)	Foundry equipment, ship-ments	Mechanical stocks, large commercial	Wood-working machinery, ship-ments
	Mo. avg. ship-ments, 1923-25 = 100	Thous. of dollars	Thous. of dollars	Number of vehicles	Short tons	Short tons	Short tons	Short tons	Short tons	Thous. of dollars	Mo. avg. ship-ments, 1923-25 = 100	Horse-power	Thous. of dollars
1929, monthly average.....	155.8	1,824	1,764	172	61,709	47,002	—	63,223	13,516	38,236	139.8	—	1,596
1930, monthly average.....	70.9	543	1,364	103	39,614	24,536	—	39,120	8,176	29,915	125.1	—	731
1931, monthly average.....	41.0	328	707	53	24,176	17,647	—	26,309	4,078	23,199	56.7	—	434
1932, monthly average.....	19.6	42	459	31	14,880	12,060	—	14,486	3,278	16,916	21.1	—	194
1933, monthly average.....	27.1	67	575	43	21,394	20,581	22,353	10,650	5,580	18,382	28.2	26,134	319
1934, monthly average.....	46.2	105	529	49	29,781	34,178	34,178	20,166	4,093	25,917	64.0	33,345	262
1935, 8 months' average.....	82.1	215	734	64	37,002	30,917	38,799	27,907	5,707	39,868	67.6	33,459	394
January.....	65.5	80	636	42	41,182	31,763	34,348	18,778	2,333	30,935	76.2	24,330	241
February.....	63.0	207	777	58	27,453	31,803	31,728	16,094	3,602	31,332	85.1	21,164	267
March.....	62.2	156	697	59	42,876	34,080	34,723	16,832	3,440	29,679	82.7	23,548	304
April.....	66.5	148	708	76	40,006	31,972	36,233	19,244	4,422	35,026	80.7	23,281	318
May.....	73.2	221	676	67	37,639	29,660	36,063	27,030	4,263	36,944	87.0	26,542	348
June.....	91.1	217	558	53	31,986	26,606	30,507	17,914	4,210	32,540	82.3	24,321	328
July.....	118.5	262	747	76	31,111	26,295	34,670	18,890	4,654	39,343	102.3	24,594	322
August.....	124.5	223	741	78	27,772	29,608	45,426	19,335	4,628	39,899	97.2	27,356	354

¹Since January 1934, data have also been included from the forging machinery group which represents less than 3 percent of the combined sales for machine tools and forging machinery.